

ANNUAL REPORT

OF THE

COMMITTEE

OF THE

MANCHESTER AND SALFORD

SANITARY ASSOCIATION,

BEING

Summary of their Proceedings for the Year 1874.



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MANCHESTER AND SALFORD SANITARY ASSOCIATION.

Committee and Officers for the Year 1875.

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Honorary Secretaries:

J. HARDIE, M.D. | J. HADDON, M.A., M.D.

V. K. ARMITAGE, Esq., M.A., L. B.

Secretary

Mr. FREDK. SCOTT.

Committee Rooms,

78, Cross Street, Manchester.

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Dr. HARDIE.	Professor ROSCOE.
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H. PHILIPS, Esq.	G. W. RAYNER WOOD, Esq

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Dr. HARDIE.	Dr. LEECH.
„ HADDON.	„ RANSOME.

POLLUTION OF RIVERS.

V. K. ARMITAGE, Esq.	Dr. LEECH.
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CO-OPERATION WITH MEDICAL OFFICERS OF HEALTH.

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„ HADDON.	J. LASCELLES, Esq.

Communications for the Committee may be addressed to—

Dr. NOBLE, Chairman, Ardwick Green.

Dr. RANSOME, Deputy Chairman, 1, St. Peter's Square.

OLIVER HEYWOOD, Esq., Treasurer, St. Ann's Street.

The Honorary Secretaries, { Dr. HARDIE, King Street.
Dr. HADDON, Eccles.
V. K. ARMITAGE, Esq., Eccles.

OR TO

Mr. FREDK. SCOTT, Secretary, 78, Cross Street.

At the ANNUAL MEETING of the Manchester and Salford Sanitary Association, held at the Royal Institution, Mosley Street, on Tuesday, June 22nd, 1875.

DR. NOBLE IN THE CHAIR.

The Annual Report having been read ;

It was moved by Dr. NOBLE ; seconded by Dr. TATHAM ;

That this Meeting cordially approving the proceedings of the Committee, as set forth in their Report, request that the said Report may be printed and extensively circulated.

Moved by Dr. MORGAN ; seconded by F. GREG, Esq. ;

That inasmuch as one of the fundamental objects of the Association is the prevention of disease, this Meeting trusts that the Committee will use every means in their power to secure all possible precautions being taken to prevent the spread of infectious disorders.

Moved by T. MELLOR, Esq. ; seconded by Dr. RANSOME ;

That the practical efforts of the Committee to improve the condition of the poorer classes by directing attention to the sanitary laws, deserve the encouragement and pecuniary support of this Meeting and the public in general.

Moved by J. GALT, Esq. ; seconded by W. H. HUGHES, Esq. ;

That the best thanks of this Meeting be given to the President, Vice-Presidents, Committee, and Officers for the unwearied attention they have devoted to promoting the interests of this Association ; and that the following Noblemen and Gentlemen be requested to act for the ensuing year. (For the names see third page.)

DANIEL NOBLE, Chairman.

The Chair having been taken by Dr. RANSOME,

It was moved by Dr. HARDIE ; seconded by Dr. HADDON ;

That the thanks of the Meeting be given to Dr. NOBLE, for presiding on this occasion, and for the interest he evinces in the welfare of the Association.

R E P O R T .

IN presenting their Annual Report the Committee have to congratulate the subscribers on the increased usefulness of the Association during the past year.

The Sub-Committee on Noxious Vapours from Chemical and other works have pursued their investigations. Great difficulty was experienced in obtaining reliable statistics as to the effect of such vapours on human life, and the cost of obtaining special returns is beyond the means of the Association. Steps are being taken, however, to obtain the co-operation of Medical Officers of Health, in districts most subjected to such vapours, and with their assistance the Sub-Committee look forward to obtaining important results. In the course of the inquiry the attention of the Sub-Committee was directed to the continued prevalence of ordinary smoke nuisances in Manchester, which led to the appointment of two inspectors, by the Association, to take independent observations as to the discharge of smoke from the chimneys of factories, &c. The evidence thus obtained verified the fears of the Committee that the law relating to smoke nuisances was extensively infringed in Manchester, and a letter was addressed to the City Council requesting them to give full effect to their powers under the "Smoke Clause" of the Sanitary Act, 1866, (see Appendix A).

The prevalence and apparent tendency to an increase of Scarlatina and Typhoid Fever during the early part of the year, suggested to the Committee the desirability of publishing tracts, containing inform-

ation as to the best means for avoiding the outbreak and preventing the spread of those diseases. A Sub-Committee was accordingly appointed for that purpose, and the tracts, copies of which have been sent to the subscribers, were prepared and issued. The favour with which they were received is indicated by the fact that the first edition of 10,000 was exhausted in less than three months, and a second edition had to be printed. Applications for copies were received from all parts of the kingdom, as the result of the widespread favourable notice which the tracts obtained from the press.

The Association having long felt the importance of establishing a national system of registration of diseases, as distinct from the death returns of the Registrar General, has taken a warm interest in the promotion of that object. In the year 1870 a deputation from the Association was appointed to join another from the British Medical Association in waiting upon the President of the Poor Law Board, to urge the adoption of such a system. During the past year the Association has again endeavoured to obtain the aid of Parliament in the matter, through the President of the Local Government Board. A copy of the Memorial forwarded will be found in the Appendix (B). What the Association has in this way endeavoured to procure for the whole country, it has itself supplied for Manchester and Salford as far as public practice is concerned, and the information thus collated has been published for many years in leaflet

form, whilst during the past year it has been published weekly in the daily papers. The thanks both of the Association and the public generally are due to the gentlemen connected with the various public institutions, for the voluntary aid they give to the Association in this matter.

The following is a list of the contributors of the returns :—

- Dr. R. M. Mann, Great Bridgewater Street, Deansgate.
 J. Broadbent, Esq., Surgeon, 178, Great Ancoats Street.
 Edward Meacham, Esq., Surgeon, 1, Turkey Lane, Harpurhey.
 T. Price, Esq., Surgeon, Upper High-street.
 O. Dean, Esq., Surgeon, Butler-street, Oldham-road.
 J. Westmorland, Esq., Surgeon, York-street, Cheetham Hill.
 W. Needham, Esq., Medical Officer, Manchester Workhouse, New Bridge-st.
 G. R. Gowland, Esq., do. Crumpsall Workhouse, near Manchester.
 W. Walker, Esq., House Physician, Royal Infirmary.
 Henry Runcorn, Esq., House Surgeon, St. Mary's Hospital, Quay-street.
 W. T. Smith, Esq., House Surgeon, Clinical Hospital, York-street, C. H.
 W. A. Renshaw, Esq., Assistant Medical Officer, Childrens' Dispensary, Gartside-street.
 A. Boutflower, Esq., Medical Officer, City Gaol Hospital, Hyde-road.
 Dr. J. C. Peatson, Mount-street, Manchester.
 Dr. A. C. Clarke, Chapel-street, Salford.
 Dr. T. M. Johnson, Chapel-street, Salford.
 J. S. Orchard, Esq., Medical Officer, Salford Workhouse, Eccles New-road.
 J. H. Morris, Esq., House Surgeon, Salford Hospital.
 Dr. C. H. Braddon, County Prison Hospital, Strangeways.
 Dr. S. Woodcock, 414, Stretford-road.
 Dr. A. Wilson, 223, Stretford-road.
 H. M. Williamson, Esq., Surgeon, 25, Stretford-road.
 J. Walker, Esq., House Surgeon, Hulme Dispensary.
 J. Foster, Esq., Surgeon, Grosvenor Square, All Saints.
 G. S. Symmons, Esq., Medical Officer, Union Workhouse, Withington.
 Dr. S. Daly, Chorlton Dispensary, All Saints.
 Dr. T. W. Rhodes, Upper Brook-street, Chorlton-on-Medlock.
 R. T. Parkinson, Esq., House Surgeon, Southern Hospital.
 Dr. Watson, Stockport-road, Ardwick.
 J. Leigh, Esq., M.R.C.S., Medical Officer of Health, Manchester.
 J. Tatham, Esq., M.D., Medical Officer of Health, Salford.

Another question in which the Association has always taken a deep interest, is the provision of adequate hospital accommodation for infectious diseases in Manchester. In 1865 a memorial was presented to the City Council, urging house to house visitation, the removal of all infectious persons to hospital, and the extension of hospital accommodation. In 1868, on the requisition of the Association, the Mayor convened a public meeting to discuss the subject, and a Committee then appointed, reported that the accommodation for cases amongst the independent poor was totally inadequate. In 1871 the inaction of the authorities led the Association again to press for speedy and energetic action, in providing the required accommodation. In 1872 a valuable paper was read by a member of the Committee (Dr. Hardie) before a combined meeting of the Association, and the Statistical Society, on "the duty of Municipal Authorities to provide Hospital Accommodation for Infectious Diseases," and during the past year the City Council have been memorialised once more on the same subject. (For a copy of the Memorial, see Appendix C). The reply to the Memorial, received in November last, stated that a Special Committee of the Corporation had been appointed to consider it, and there is now some reason to believe that at last the representations of the Association are about to be acted upon.

The condition of Cottage Dwellings has received the continued attention of the Committee, and it is

worthy of notice that the subject has been brought prominently before Parliament during the present session. A Bill, introduced by Mr. Cross, the Home Secretary, is on the point of becoming law. Though that measure is exceedingly limited in scope, it will nevertheless lead to beneficial results. A copy of a Memorial from the Association to Mr. Cross suggesting certain amendments in the Bill will be found in the Appendix (D). The Sub-Committee on Cottage Dwellings having been invited to report upon a new water closet, patented by Mr. Fowler, Borough Engineer, Salford, and introduced upon trial into that borough, appointed a deputation for the purpose, whose report (see Appendix E) was forwarded to the Salford Corporation. It is much to be regretted that the Salford Corporation still maintain on the important question of dealing with excreta, an attitude wholly at variance with the enlightened action they usually take in matters affecting the well-being of the inhabitants of the borough. In Salford (borough district) and Broughton, the old midden system still prevails. No other comment on the dangers arising from this system is needed than a statement of the fact that these middens possess a storage capacity of from six months to two years, without any provision for conveying away the noxious gases arising from them, which are thus for long periods allowed to poison the atmosphere. In Pendleton, on the contrary, the cinder sifter system, (which provides for the removal of the excreta weekly)

has been introduced, and about 700 closets on this plan have been erected.

The expectations of the Association as stated when advocating the introduction of the cinder sifter system in Manchester, have been fully realised, and it might reasonably be supposed that the Salford Corporation with the evidence afforded in Manchester and Pendleton of its beneficial results, would not hesitate in insisting upon its being adopted throughout the whole borough. Unfortunately however, the influence of interested opposition to the system seems sufficiently strong to defeat the efforts of the more independent members of the Council, to keep up with the times in respect to sanitary reform.

The desirability of effecting a means of co-operation between the Association and the Sanitary Officials of Manchester and the neighbourhood, has from time to time been discussed by the Committee, and with that object in view a Conference of Medical Officers of Health was convened by the Association, which has happily resulted in the formation of the "North-Western Association of Medical Officers of Health."

This body it is believed will prove an effective agency for the accomplishment of the object which the Committee of this Association desired to promote, namely, united action on the part of the various local authorities in Sanitary matters.

The work of the Association in spreading a knowledge of the laws of health by means of public lectures, has been carried to the extent of the means of the

Association, and, although the attendance at some of the lectures would seem to indicate that the class for which they are specially intended does not appreciate them, nevertheless, they are certainly productive of much benefit. In addition to the special tracts already referred to, copies of the following have been freely distributed at the lectures :

- 1—"What is Man"? A homely explanation of the structure of the human body, with advice for preserving it in health.
- 2—"Hints to working people about the houses they live in."
- 3—"Facts about health worth recollecting."
- 4—"Hints to working people about personal cleanliness."
- 5—"Hints to working people about clothing."
- 6—"Vaccination and re-vaccination."
- 7—Set of three cards, on (1) "Food for Infants," (2) "Clothing and Cleanliness of Infants," (3) "Nursing Sick Children."

From instances which have come to their knowledge the Committee can state that these tracts do much good, the advice contained in them being often followed implicitly, although at the cost of considerable inconvenience.

The following is a list of the lectures delivered during the year :—

- "The Causes of Death," J. E. Morgan, M.D., Memorial Hall.
- "Long Life and Short Life," A Ransome, M.D., St. Andrew's School, Ancoats.
- "Health, and how to preserve it," J. Haddon, M.D., Pendleton Town Hall.
- Ditto ditto Christ Church School, Salford.
- "Unhealthy Homes [and how to avoid them]," R. Martin, M.D., St. Alban's School, Ancoats.
- Ditto ditto St. Clement's School, Longsight.
- "The Brain—its diseases and how to prevent them," J. Shepherd Fletcher, M.D., Cathedral School.
- "The Feeding Bottle and Infant Mortality," R. W. Ledward, M.D., St. Gabriel's School, Hulme.

The health of Manchester and Salford during 1874 compares favourably with 1873, although there is still room for a great reduction in the number of deaths from infectious diseases, which as has so often

been pointed out by the Association, would undoubtedly be brought about if the Corporate Authorities provided (as they are empowered by law to do) suitable hospital accommodation for the isolation of such cases.

The following table shows the mortality in Manchester and Salford, in the year 1874 :—

Quarterly Return of Deaths and Births in Manchester and Salford for the year 1874.

DISEASES.	March.	June	Sept.	Dec.	Total.
Small Pox	2	3	2	6	13
Measles	36	68	101	115	320
Whooping C'gh.	120	124	103	65	412
Scarlatina	172	100	137	219	628
Fever	57	68	88	72	285
Diarrhoea	57	67	69	100	293
Dis. of Lungs..	990	828	585	1,004	3,407
Other causes ..	1,762	1,704	1,628	1,744	6,838
Total Deaths ..	3,196	2,962	3,342	3,325	12,825
Deaths under } 5 years. . . . }	1,381	1,418	2,051	1,569	6,419
Deaths under } 1 year }	892	953	1,481	1,017	4,343
Average death } rate }	29.2	25.6	29.7	29.6	28.5
Births	4,905	5,082	4,802	4,712	19,501

This table as compared with that for the previous year shows a decrease of mortality, from Small-Pox, by 9 deaths; from Measles, by 252 deaths; from

Scarlatina, by 11 deaths; from Fever, by 30 deaths; from Diarrhœa, by 97 deaths; from diseases of the Lungs, by 283 deaths, and from other causes, by 382 deaths, total 1064. The only complaint which shows an increased fatality is Whooping-Cough, and the mortality from it increased by the large number of 223 deaths. Decrease of mortality from all causes as compared with 1873, 841. The deaths under 5 years have been fewer by 151, and under 1 year more by 53. The average death rate for the year has been 28·5.

Comparing the mortality during the past year with that of the last 10 years, the number of deaths from zymotic diseases appears to be gradually diminishing, although in 1874 they were less by only 79 than in 1873, and 151 more than in 1870 when the least number during the last decade occurred. On the other hand the mortality under 5 years of age shows no such tendency. Although less in the past year, than the previous one, it seems nevertheless to be gradually increasing. From this it may be concluded that there are other causes of infant mortality, altogether apart from zymotic diseases, which are constantly present and continually at work amongst their helpless victims. Probably a contaminated atmosphere, insufficient clothing, unsuitable food, and the general neglect of the mothers, taken in connexion with the quantity of medicine administered by prescribing chemists, may help to produce such a large amount of infant mortality as we deplore.

Quarterly Return of New Cases of Disease in Public Practice in Manchester and Salford during the year 1874.

DISEASES.	March.	June.	Sept.	Dec.	Total.
Small Pox	8	18	28	44	98
Measles	93	151	260	291	795
Scarlet Fever ..	140	170	240	227	777
Diphtheria	4	9	4	3	20
Whooping C'gh.	312	402	308	293	1,315
Croup	6	8	5	11	30
Diarrhœa	457	518	2,316	679	3,970
Dysentery	16	9	4	3	32
Malignant Chol.	—	—	—	—	—
Erysipelas	154	110	155	183	602
Continued Fever	99	46	58	50	253
Typhus	14	9	7	40	70
Typhoid	34	52	118	146	350
Febricula	378	476	530	548	1,932
Ague	—	—	6	1	7
Rheumatic Fever	191	150	127	208	676
Puerperal Fever	6	2	—	5	13
Bronch., Catarrh	3,698	2,738	2,301	3,457	12,194
Influenza	39	30	28	42	139
Pleurisy and } Pneumonia }	301	328	270	287	1,186
Phthisis	787	788	765	819	3,159
Const. Syphilis	750	746	781	798	3,075
Other diseases..	12,066	12,194	11,133	10,433	45,826
Accidents	3,028	3,386	3,854	3,505	13,773
Total	22,581	22,340	23,298	22,073	90,292
Deaths in Public Practice	744	784	747	903	3,178

The relation between states of the weather and disease, which has been studied by this Association for many years is now attracting the notice of Sanitarians generally, and there is every prospect that meteorological observations when compared with the outbreak of different diseases, will yield most interesting and valuable results. The Committee, with a view to aid in the further advancement of our knowledge in this direction, hope to be able, by the assistance of Mr. T. Mackereth, a distinguished meteorologist, to compare the meteorology and epidemiology of Manchester and Salford in their next report.

Sundry other matters have been under the consideration of the Committee during the year, but as no public action has been taken in connection with them within, the period embraced in this report, they need not be enlarged upon here. It may, however, be stated that amongst those matters are included the Pollution of Rivers, and the adulteration of Food. A Sub-Committee has the former subject under consideration. With reference to the latter, the Committee are glad to be able to state that the authorities have not altogether neglected to protect the public, seeing that they have instituted several successful prosecutions, chiefly against milk-dealers, still, as previously urged by the Association, much less is done in this respect than would be accomplished were an officer appointed by the Corporation, with the special duty of detecting adulteration. Experience has shown that those most affected by this kind of

fraud, viz., the working classes, will not be at the trouble and expense of ascertaining whether or not their food is adulterated.

Owing to the greatly reduced income of the Association during the past few years, the Committee found it necessary in order to carry on their work, to issue a special appeal to the public for funds. The response, although it placed the Association in a much better financial position than it held last year, has not been sufficient to enable the Committee to do as much for the promotion of sanitary reform as they desire. The usefulness of the Association must necessarily be in proportion to the amount of funds at its disposal, and the Committee would therefore earnestly urge upon those who are not subscribers, but who are interested in promoting the objects of the Association to contribute to its funds.

In addition to the various documents in the appendix, referred to in this report, will be found numerical tables, and charts of the zymotic diseases in Manchester and Salford, in the year 1874, which it is believed will prove interesting.

Cases of Disease in Hospitals, and Deaths Registered during the Half-year ending June 30th, 1874.

1874.	JANUARY					FEBRUARY				MARCH				Totals for Quarter ending Mar. 31st	APRIL				MAY					JUNE				Totals for Quarter ending June 30th	Totals for Half Year ending June 30th							
	3	10	17	24	31	7	14	21	28	7	14	21	28		4	11	18	25	2	9	16	23	30	6	13	20	27									
Mean Temperature...	39.3	38.7	42.4	42.9	42.9	35.6	35.5	40.6	41.1	43.8	35.6	46.4	46.0	8	46.2	44.4	44.5	55.4	52.2	43.9	45.5	49.4	54.2	50.1	53.7	53.4	56.6	18	26							
Mean height of Baro- meter	29.746	29.901	29.745	29.901	30.431	30.450	30.101	29.676	29.649	30.459	30.052	30.057	30.148		29.534	29.576	29.841	30.067	30.163	29.829	30.236	30.051	29.854	30.135	30.259	30.353	29.797			2						
Amt. of vapour in air 1000=full saturation.	0.896	0.879	0.885	0.888	0.896	0.926	0.910	0.928	0.890	0.904	0.862	0.860	0.839		0.754	0.767	0.782	0.754	0.732	0.691	0.731	0.766	0.824	0.740	0.660	0.750	0.822				10					
Movement of the air in miles	1201.6	695.1	905.5	1040.2	1064.5	264.9	924.6	804.6	1107.4	424.7	924.6	1263.0	975.2		2047.2	646.4	903.2	404.7	513.9	337.3	311.4	371.1	543.1	644.4	656.2	1039.1	329.0					30				
Amount of Ozone 10 = highest	3.42	1.42	2.85	2.00	2.71	1.71	1.57	1.28	2.85	—	4.14	5.14	3.28		7.57	1.42	2.14	0.85	1.42	1.42	1.57	1.71	2.28	1.28	2.14	3.00	0.57						1000			
Amount of rainfall in inches	1.061	0.846	1.057	0.342	0.077	0.076	0.384	0.480	0.524	0.065	0.751	0.835	1.073	0.500	0.353	0.328	0.005	0.019	0.074	0.264	0.311	0.888	0.010	0.020	—	0.387	29									
Small Pox .....	...	...	...	...	1	...	2	...	3	...	...	1	1	...	...	1	...	1	2	1	1	6	1	1	...	4		18	26
Deaths	1	1				2	2					
Measles	16	8	13	9	10	3	7	2	5	5	6	4	5	93	8	7	8	5	6	4	6	6	13	16	21	27						24		151	244	
Deaths	3	...	2	3	1	2	1	1	2	2	...	17	1	...	1	1	1	...	3						3	10			27
Scarlatina	13	9	15	16	10	7	6	12	11	10	9	11	10	139	8	9	13	9	20	21	11	19	14	14	5	11	16					170					309
Deaths .....	...	...	...	5	...	3	...	...	1	...	...	2	2	13	1	2	1	...	...	2	...	4	2	1	1	...	2	16	29
Whooping Cough ...	49	39	39	22	25	19	19	22	20	9	17	15	17	312	8	17	20	18	22	22	27	29	23	49	53	54	60			402	714					
Deaths	4	2	2	1	1	1	1	...	12	2	...	3	1	...	2	3	2	1	2	2							18	30	
Diarrhoea and Dy- sentery	35	41	37	34	26	38	33	41	32	37	44	47	28	473	26	30	38	33	45	34	25	38	37	47	52	64	58						527			1000
Deaths	1	...	1	2	4	...	2	...	1	11	1	1	2	1	1	1	1	1	2					2					12	23
Continued, Typhoid, Typhus, Febricula, Ague, Rheumatic & Puerperal Fever	72	69	75	59	57	69	43	55	47	42	41	45	58	732	32	35	63	67	58	50	32	61	51	73	87	70	56	735	1467							
Deaths	1	...	1	1	1	4	1	...	1	3	2	1	...	2	2	...	2			14	18					
Bronchitis, Catarrh Influenza, Pleu- risy, & Pneumo- nia.....	350	389	356	359	340	357	429	438	376	365	360	353	353	4825	271	287	281	315	237	312	291	318	212	369	337	298	306					3884		8709		
Deaths	29	16	18	13	11	18	21	24	19	12	26	16	25	248	18	13	19	22	27	17	14	22	28	18	16	20	15						249		497	
Other Diseases	1101	1193	1186	1302	1236	1230	1203	1246	1257	1243	1159	1344	1299	15999	1162	1291	1261	1446	1414	1251	1178	1227	1047	1365	1319	1207	1285									16453	32472
Deaths	16	27	27	29	36	33	44	48	40	31	43	38	27	439	34	31	26	40	42	51	36	31	36	37	32	33	34	463	902							
Total Diseases	1636	1748	1721	1801	1705	1723	1742	1816	1751	1711	1635	1820	1771	22581	1515	1676	1685	1893	1853	1696	1571	1699	1403	1934	1875	1731	1809			22340	44941					
Total Deaths	52	46	50	52	52	56	66	72	65	44	74	59	56	744	55	46	50	66	75	72	53	62	71	60	53	60	61					784		1528		

Cases of Disease in Hospitals, and Deaths Registered during the Half-year ending December 26th, 1874.

1874.	JULY				AUGUST					SEPTEMBER				Totals for Quarter ending Sept. 30th	OCTOBER					NOVEMBER				DECEMBER				Totals for Quarter ending Dec. 31st	Totals for Year ending Dec. 31st
	4	11	18	25	1	8	15	22	29	5	12	19	26		3	10	17	24	31	7	14	21	28	5	12	19	26		
Mean Temperature...	58·6	60·3	65·4	59·8	59·0	56·4	55·4	60·0	57·2	57·7	54·1	50·2	57·3		53·3	49·0	52·8	48·2	50·8	48·8	40·8	44·4	34·8	37·0	36·8	31·8	29·7		
Mean height of Baro- meter	29·852	30·133	30·122	29·856	29·763	29·713	29·570	30·296	29·970	29·748	29·685	30·023	29·935		29·534	29·691	29·796	29·840	30·100	30·150	30·156	29·816	29·850	29·533	29·340	29·967	29·750		
Amt. of vapour in air 1000=full saturation.	0·740	0·725	0·704	0·804	0·750	0·804	0·802	0·826	0·812	0·769	0·842	0·832	0·831		0·836	0·825	0·868	0·772	0·902	0·874	0·824	0·872	0·848	0·878	0·873	0·863	0·819		
Movement of the air in miles	1125·3	365·1	294·7	223·3	491·8	114·5	884·7	382·5	439·4	1165·8	746·9	632·4	590·2		1140·8	1153·5	748·9	1458·6	821·0	391·2	654·8	917·9	729·9	794·9	989·5	809·3	191·0		
Amount of Ozone 10 = highest	3·00	1·00	1·00	1·71	1·71	3·42	4·57	0·14	0·71	3·71	1·71	2·14	1·42		4·00	2·71	0·85	4·75	0·85	0·42	2·23	4·14	1·14	3·14	2·85	0·85	0·28		
Amount of rainfall in inches	0·721	—	0·676	0·934	0·277	1·588	2·752	0·269	0·827	1·915	1·305	0·239	0·447		1·520	1·453	0·341	0·666	0·713	0·274	0·232	2·328	1·720	1·153	1·697	0·350	0·342		
Small Pox	1	...	2	1	2	...	3	1	2	2	3	7	4	28	7	10	2	6	4	4	2	1	3	1	...	2	2	44	98
Deaths .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	1	...	...	...	...	...	1	...	...	...	...	6	8
Measles	24	22	22	25	20	32	23	19	12	6	12	21	22	260	20	14	17	10	16	23	20	23	41	32	29	26	20	291	795
Deaths	2	...	1	...	2	1	5	...	...	...	1	1	2	15	...	2	1	...	1	...	1	1	1	...	1	...	4	12	54
Scarlatina	15	17	12	12	11	15	20	12	12	14	31	37	32	240	25	30	21	21	14	15	24	15	18	22	11	8	3	227	777
Deaths	1	1	1	1	2	...	3	2	1	1	1	1	4	19	2	...	...	4	4	...	...	3	...	...	...	1	...	14	62
Whooping Cough ...	47	54	32	28	19	16	19	15	21	14	18	12	13	308	14	22	15	19	17	28	27	22	33	28	34	19	15	293	1315
Deaths	3	...	3	1	...	3	1	1	...	2	...	...	...	14	1	1	1	1	1	...	...	1	4	...	2	...	3	15	59
Diarrhoea and Dy- sentery	80	118	204	238	280	224	191	188	214	160	170	129	124	2320	77	88	80	70	53	57	59	47	23	41	34	27	26	682	4002
Deaths	2	2	5	7	8	14	11	7	9	10	5	7	9	96	3	4	4	1	1	4	5	1	2	1	1	2	1	30	149
Continued, Typhoid, Typhus, Febricula, Ague, Rheumatic & Puerperal Fever	73	66	73	62	48	42	50	71	70	82	65	71	83	856	77	86	93	81	90	88	96	69	82	71	66	50	49	998	3301
Deaths	3	...	...	3	...	...	1	1	4	4	...	1	1	18	2	1	3	2	4	4	3	1	5	4	1	1	2	33	69
Bronchitis, Catarrh Influenza, Pleu- risy, & Pneumo- nia	289	204	269	227	221	227	234	237	262	247	240	287	320	3264	301	271	315	313	295	362	313	367	414	430	438	463	323	4605	16678
Deaths	19	11	22	11	15	24	23	16	15	14	14	14	12	210	14	20	25	21	22	18	23	32	20	18	52	34	43	342	1049
Other Diseases	1203	1407	1350	1136	1257	1185	1111	1156	1252	1162	1203	1289	1311	16022	1270	1076	1348	1177	1157	1259	1210	1102	1058	1102	1104	1139	931	14933	63326
Deaths	25	33	30	31	24	30	39	39	25	23	24	19	33	375	36	24	31	36	39	38	32	31	33	43	30	38	40	451	1728
Total Diseases	1732	1888	1964	1729	1858	1741	1651	1699	1845	1687	1742	1853	1909	23298	1791	1597	1891	1697	1646	1836	1751	1646	1672	1727	1716	1734	1369	22073	90292
Total Deaths ..	55	47	62	54	51	72	83	66	54	54	45	43	61	747	59	55	66	65	72	64	64	70	66	66	87	76	93	903	3178

APPENDIX:

(A)

SMOKE NUISANCE.

*Manchester and Salford Sanitary Association,
78, Cross Street, Manchester.*

March 30, 1875.

SIR,—During an investigation into the effects upon human life of vapours from chemical and other works, by a sub-committee of this Association, their attention has been drawn to the continued prevalence of ordinary smoke nuisances in Manchester. The Association accordingly employed a practical man as an Inspector, to ascertain to what extent the law was infringed. His instructions were to report such cases as he deemed offences only, and of these he enumerated 69 in one week; the discharge of smoke described as “dense black,” or “opaque,” varying in those cases from four minutes to 25 minutes in the half hour. Through the courtesy of the Health Committee, the Association obtained a list of the offences reported by the Inspectors of the Corporation during the same period. Out of 113 observations made by two officers only four represented offences. The discrepancy between the two reports was so great that the Association determined to appoint another Inspector as an independent witness. At the request of the sub-committee we now send you the second report, which you will observe is drawn up in the same form as those of the Corporation’s Inspectors. The number of observations made from March 8th to 13th inclusive was 110, of which according to the standard fixed by the Corporation, namely, an aggregate discharge of black smoke of three minutes in half an hour, 35 appear as nuisances, the discharge varying from $3\frac{1}{2}$ minutes to 27 minutes in the half hour. You will also observe that in some instances the Inspector is particularly emphatic as to the obnoxious character of the nuisance, as for instance:—

March 8. Walthew and Mayoh, New Islington. Dense smoke discharged for $12\frac{1}{2}$ minutes. Note.—Smoke very dense.

March 8. Pooley and Co., Bradford Road. Dense smoke discharged for $9\frac{1}{2}$ minutes. Note.—Smoke very dense.

March 9. Tennants and Sons, Chemical Works, London Road. Dense smoke for 19 minutes. Note.—Smell, awful.

March 10. Crossley Brothers, Great Marlborough-street. Dense smoke for 18 minutes. Note—Very bad, &c.

March 11. Imperial Patent Wadding Co., Sackville-street, Dense smoke for 5 minutes. Note: Very bad, &c.

March 11. Wren and Hopkinson, Temple-street, Dense smoke for 17 minutes. Note—Very bad.

March 11. J. Smethurst, Sackville-street. Dense smoke for 11 minutes. Note—Smoke very dense. Standing in the street you were smothered in dirt from it.

There are also sundry remarks as to the height of chimneys, which in some instances are so placed that the smoke from them blows in through the windows of the surrounding houses. Thus, the somewhat startling result of the observations made by the first Inspector is corroborated, and it is rendered obvious that either the Corporation's Inspectors fail to report a large proportion of the offences committed, or the standard of black smoke which they adopt is such as to secure to the inhabitants of Manchester only a minimum of the protection provided by the "smoke clause" of the Sanitary Act, 1866, (29 and 30 Vic., cap. 90. sec 16.)

We are to request that you will be good enough to lay this letter, with the accompanying report, before the Council at their next meeting, who, it is hoped, will cause immediate steps to be taken to give full effect to their powers for the suppression of smoke nuisances.

We are, Sir, your obedient servants,

(Signed,)

JAS. HARDIE, M.D.

JOHN HADDON, M.A., M.D.

V. K. ARMITAGE, M.A.

SIR JOSEPH HERON, Town Clerk, Manchester.

 STATISTICS OF DISEASE.

TO THE RIGHT HON. GEORGE SCLATER-BOOTH, M.P., &c.
President of the Local Government Board.

The Memorial of the Manchester and Salford Sanitary Association.

RESPECTFULLY SHEWETH,

1. That under the Public Health Act, 1872, Medical Officers of Health are appointed to every Sanitary District of England.
2. That it is of great importance that these Officers should obtain regular and frequent registration of all cases of disease coming under treatment at all public institutions in their districts.
3. That these returns are needed to give speedy, regular, and definite information as to the public health, to the Officers of Health themselves, to the Local Government Board, and to the public.
4. That they would give plain and timely warning of the rise and progress of the various epidemics, of fevers, diptheria, cholera, &c., so that preventive measures might be applied at their outset, when alone they are likely to be effective, death returns being neither sufficiently prompt in their warning for this purpose, nor giving necessarily either the time or place of origin of these disorders.
5. That these returns would afford a means of estimating the burden of sickness borne by a community in its full weight of money loss, in the suffering and grief it entails, as well as in the mortality arising from it.
6. That they would guide the sanitary authorities as to the need of dealing with non-fatal cases arising from local causes.
7. That they would show the amount of disease arising from social vices and evil habits of life, *e.g.*, scrofula and syphilis.
8. That they would afford a test of the fitness of the various institutions for the reception of sick and poor.

9. That they would constitute a valuable series of medical statistics from which conclusions might be drawn respecting the causes of disease, the laws of epidemics, the relations of disease to atmospheric changes and to seasons of plenty or scarcity, and many other questions of medical science.
10. That they would probably show the influence of trade and manufactures, and of any other circumstances peculiar to a district, and would afford a means of comparing the relative healthiness of different districts, and would thus serve to direct sanitary and benevolent exertions.

Your memorialists, therefore, earnestly pray that you will take an early opportunity to introduce a measure for establishing a national system for the registration of diseases.

Signed on behalf of the Manchester and Salford Sanitary Association.

DANIEL NOBLE, M.D., *Chairman.*

ARTHUR RANSOME, M.D., *Deputy-Chairman.*

JAMES HARDIE, M.D.,
JOHN HADDON, M.A., M.D., } *Hon. Secs.*

78, CROSS STREET, MANCHESTER,
AUGUST 8TH, 1874.

(C)

FEVER ACCOMMODATION.

TO THE WORSHIPFUL THE MAYOR, ALDERMEN, AND CITIZENS
OF THE CITY OF MANCHESTER.

The Memorial of the Manchester and Salford Sanitary Association.

RESPECTFULLY SHEWETH,

That this Association has for many years taken a warm interest in the promotion of measures for the removal of causes conducive to the propagation and spread of infectious diseases, and has accordingly by memorials, public meetings, and other means urged, from time to

time, upon the authorities the necessity of providing adequate hospital accommodation for the isolation of persons attacked by such affections, as the most effective way yet known to medical science for preventing the spread of contagion.

That it has advocated the provision of small hospitals in various parts of the city in preference to one or two large establishments, as best adapted to the requirements of the inhabitants, and as the most feasible way of overcoming the general prejudice which exists against the removal of infected persons, especially children (amongst whom, however, is found the largest number of cases of zymotic disease) from their homes. That your memorialists, therefore, hailed with much satisfaction the recent expression of similar views by Mr. Leigh, the Medical Officer of Health for the city, as also his announcement that the Corporation is prepared to support such hospitals if erected by private subscriptions. Your memorialists regret that the enlightened course indicated by this offer should be nullified in some measure by the condition which accompanies it: They submit that the Corporation has full powers conferred upon it by 29 and 30 Vic., cap. 90, sec. 37, to build or contract for, as well as to maintain such places, and they are further of opinion, that it is at least as obligatory upon the Corporation, as the sanitary authority of the city, to protect the inhabitants to the fullest possible extent against epidemics of fever and other infectious and desolating diseases, as it is to provide them with public parks, gymnasia and free libraries, for purposes of recreation and instruction.

Your memorialists believe that by the provision of such accommodation the interests of the ratepayers would be best served, inasmuch as by prompt isolation of infectious maladies whenever they made their appearance in any locality, their dissemination throughout the city might be prevented, and that thus periodic epidemics of the magnitude hitherto prevailing might come to be a thing of the past. The Workhouse Hospitals would in this way be relieved of a large class of patients, and the necessity for such extraordinary and expensive measures as are entailed by a serious epidemic would be entirely obviated.

Your memorialists therefore earnestly pray that your worshipful body will reconsider the whole matter, with a view of the early provision and maintenance out of the rates of small hospitals, for the isolation of infectious diseases, in various parts of the city.

And your memorialists will ever pray, &c.

(Signed) DANIEL NOBLE, M.D., *Chairman*.
 ARTHUR RANSOME M.D., *Deputy Chairman*.
 JAMES HARDIE, M.D., }
 V. K. ARMITAGE, } *Hon. Secs.*
 JOHN HADDON, M.D., }

78, CROSS STREET, MANCHESTER,
 OCTOBER 26TH, 1874.

(D)

ARTIZANS DWELLINGS BILL.

TO THE RIGHT HON. RICHARD ASHTON CROSS, MP., &c.,
 HER MAJESTY'S PRINCIPAL SECRETARY OF STATE FOR THE
 HOME DEPARTMENT:

The Memorial of the Manchester and Salford Sanitary Association.

RESPECTFULLY SHEWETH,

That your memorialists have observed with much satisfaction, the introduction by you to the House of Commons of your "Bill for facilitating the improvement of the Dwellings of the working classes in large towns."

That whilst recognizing the great importance of the measure, and desiring that it may be carried into effect for the benefit of the poor inhabitants of large towns, your memorialists desire earnestly to suggest the following improvements:—

1. That with respect to "local enquiry" the Medical Officer of Health shall be permitted to obtain the assistance of a Government Medical Inspector to assist him in forming a judgment as to the unsuitableness of localities for human habitation.

2. That some standard of fitness for habitation is desirable.
3. That it should be permitted to local authorities to arrange for the construction of dwellings in place of those destroyed within a certain definite distance of the condemned area, and not merely within the limits or in the vicinity as in Clause 5
4. That it should be possible for local authorities to arrange for the formation of open spaces and recreation grounds within the said area.
5. That when any area has been proved to the satisfaction of the confirming authority to be unhealthy it shall be imperative upon the local authorities to proceed to amend it, and for the better working of this provision there shall be a power of appeal to the Local Government Board on the part of the "20 ratepayers" in case the Medical Officer of Health refuses to act.

Your memorialists earnestly pray that you will give these suggestions your favourable consideration with a view to their being embodied as amendments in the Bill when it is in Committee.

And your memorialists will ever pray, &c.

(Signed) DANIEL NOBLE, M.D., *Chairman.*
 ARTHUR RANSOME, M.D., *Deputy Chairman*
 FREDK. SCOTT, *Secretary.*

78, CROSS STREET, MANCHESTER,
 MARCH 19TH, 1875.

(E)

FOWLER'S PATENT WATER CLOSET.

Manchester and Salford Sanitary Association,
78, Cross-street, Manchester, Jan. 25th, 1875.

SIR,—I am instructed by the committee of the Manchester and Salford Sanitary Association to hand you the accompanying copy of a report by a deputation appointed by the Association to inspect the

new water-closet patented by Mr. Fowler, of Salford, a specimen of which has been erected on trial in the borough, and I am to request that you will be good enough to lay the same before the Council at their next meeting.

I am, Sir, yours, &c.,

C. MOORHOUSE, Esq.

(Signed)

FREDK. SCOTT, Sec.

TOWN CLERK, SALFORD.

“ Copy of a report by a deputation consisting of Dr. Hardie and the Rev. St. Vincent Beechy on Fowler’s patent water closet.

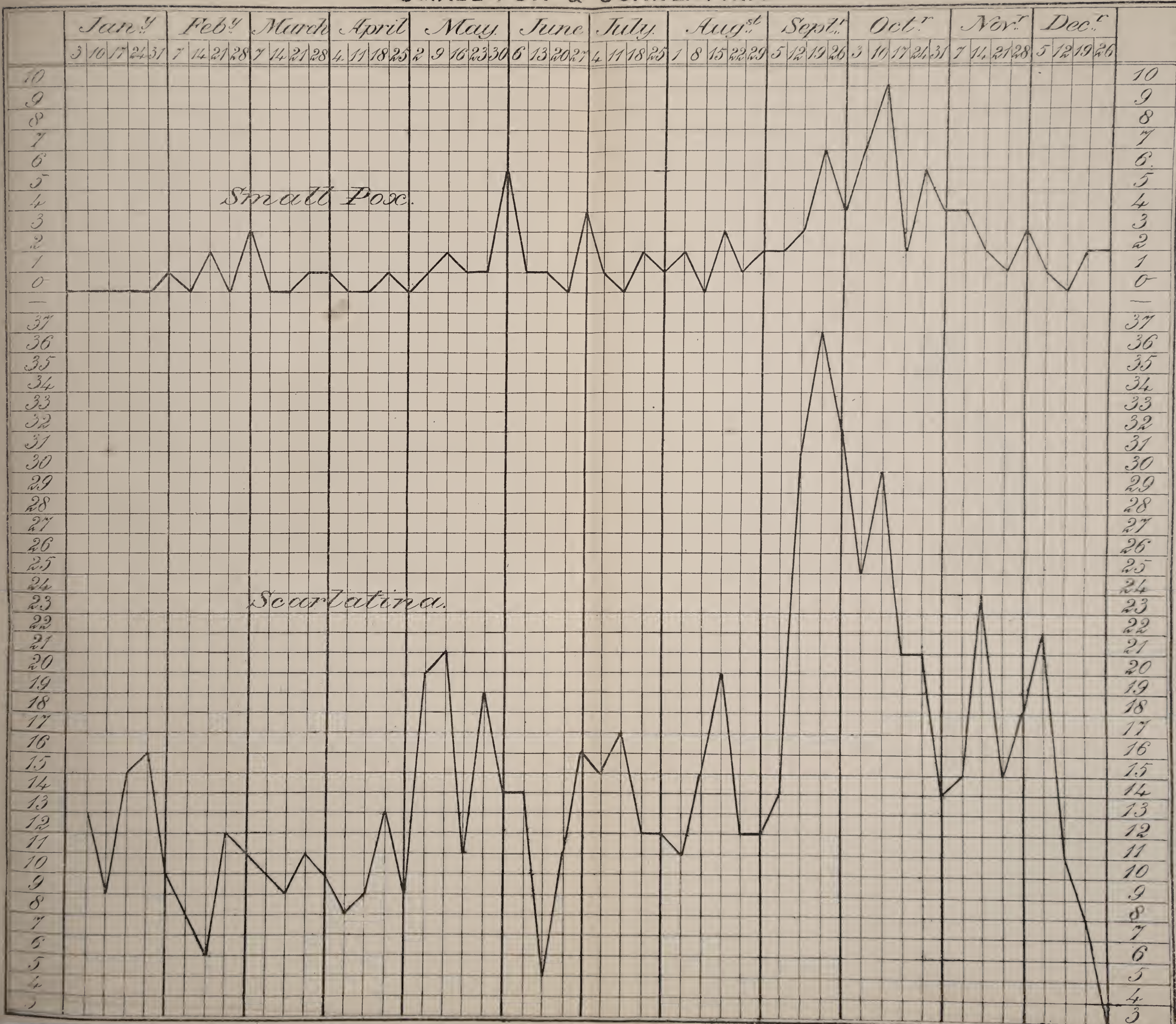
To the Committee of the Manchester and Salford Sanitary Association.

“ Gentlemen,—Your deputation have inspected a closet constructed on Fowler’s system, attached to a house near the Salford Town Hall. The system professes to flush away nightsoil to the outer drainage, without special expense of water, machinery, or power, by diverting the ordinary yard pipes and drains of a house, so as to pass slops and other waste waters through a suitably arranged basin underneath the privy seat ; in other words, to use dirty water instead of clean for the purpose of flushing water-closets. We have no hesitation in strongly condemning the principle for the following among other reasons :—

1. Because the pan of the closet has to be made of considerable depth in order to obtain a fall, and no attempt is made to flush the sides, the supply of ‘waste water’ being conducted direct to the bottom of the pan. It is obvious that this must become in time a nuisance of the worst kind, from the accretions on the sides, and in cases of diarrhoea is very likely to lead to a spread of the disorder.
2. The supply of water is not regular or continuous, but is uncertain and intermittent, depending not on the use of the closet, but on the exigencies of the kitchen.
3. The fall from the slopstone does not seem sufficiently great, nor the volume of water strong enough to ensure the drain being properly flushed.

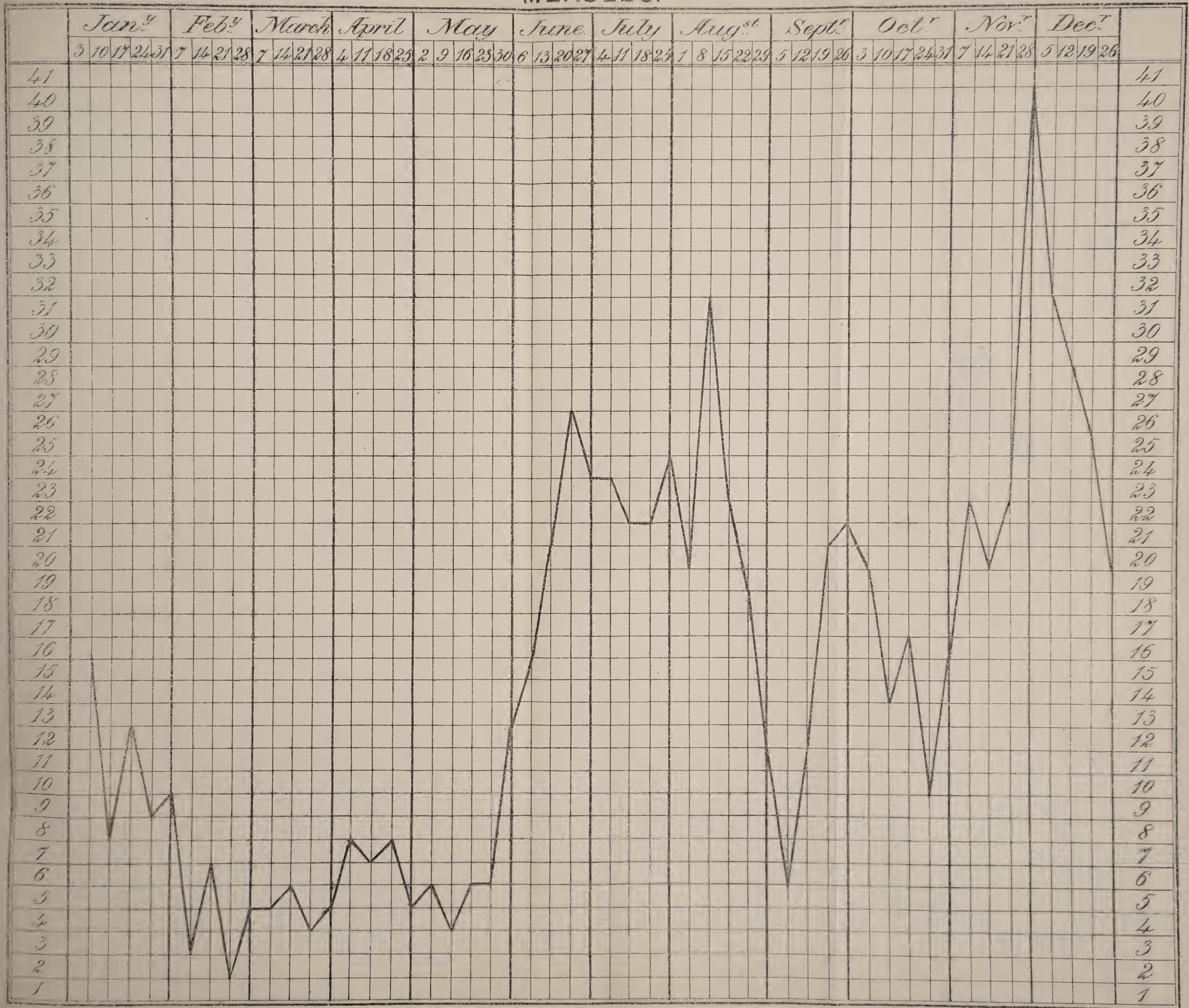
Disease in Manchester for the Year 1874.

SMALL POX & SCARLATINA.

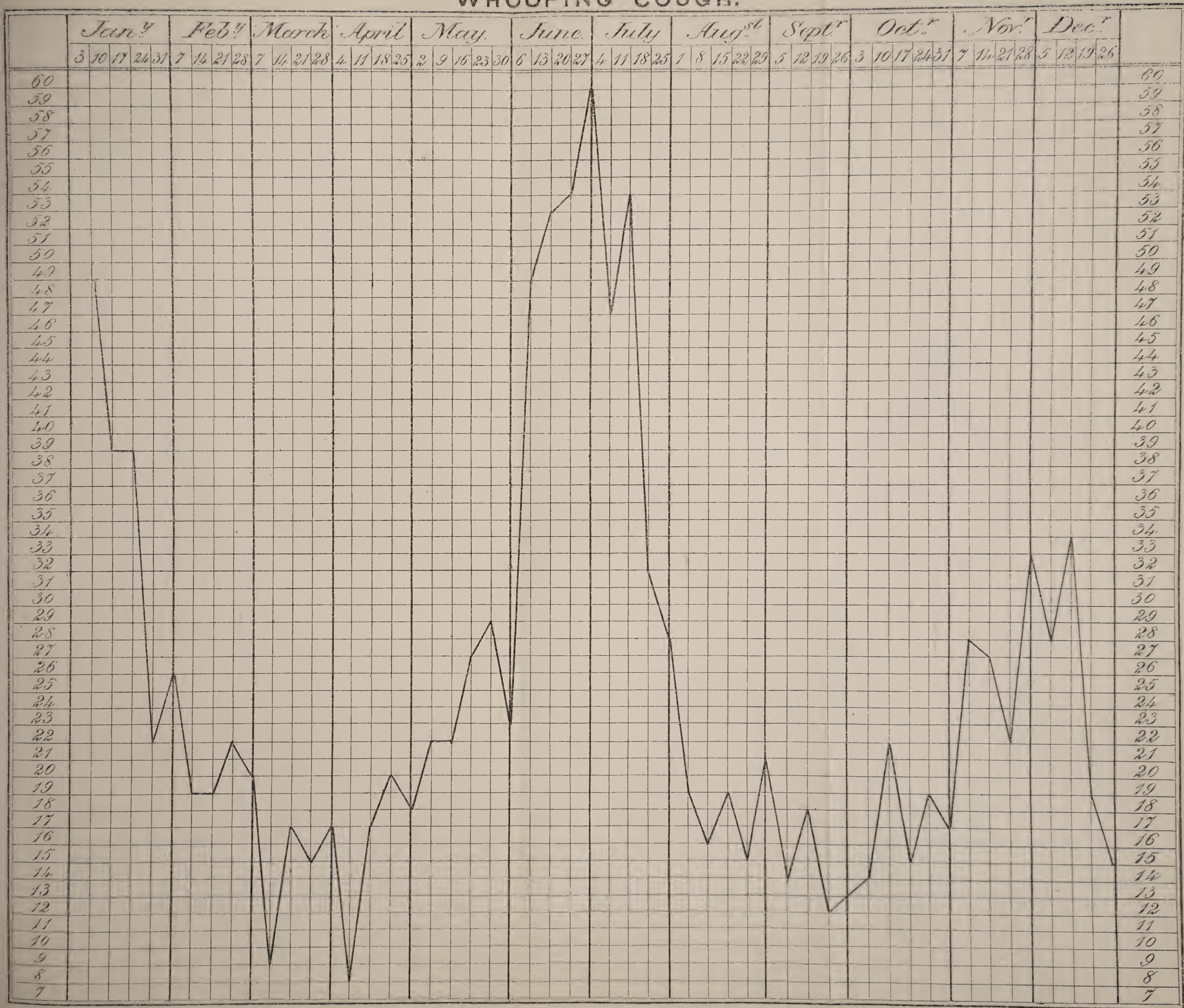


Disease in Manchester for the Year 1874

MEASLES.

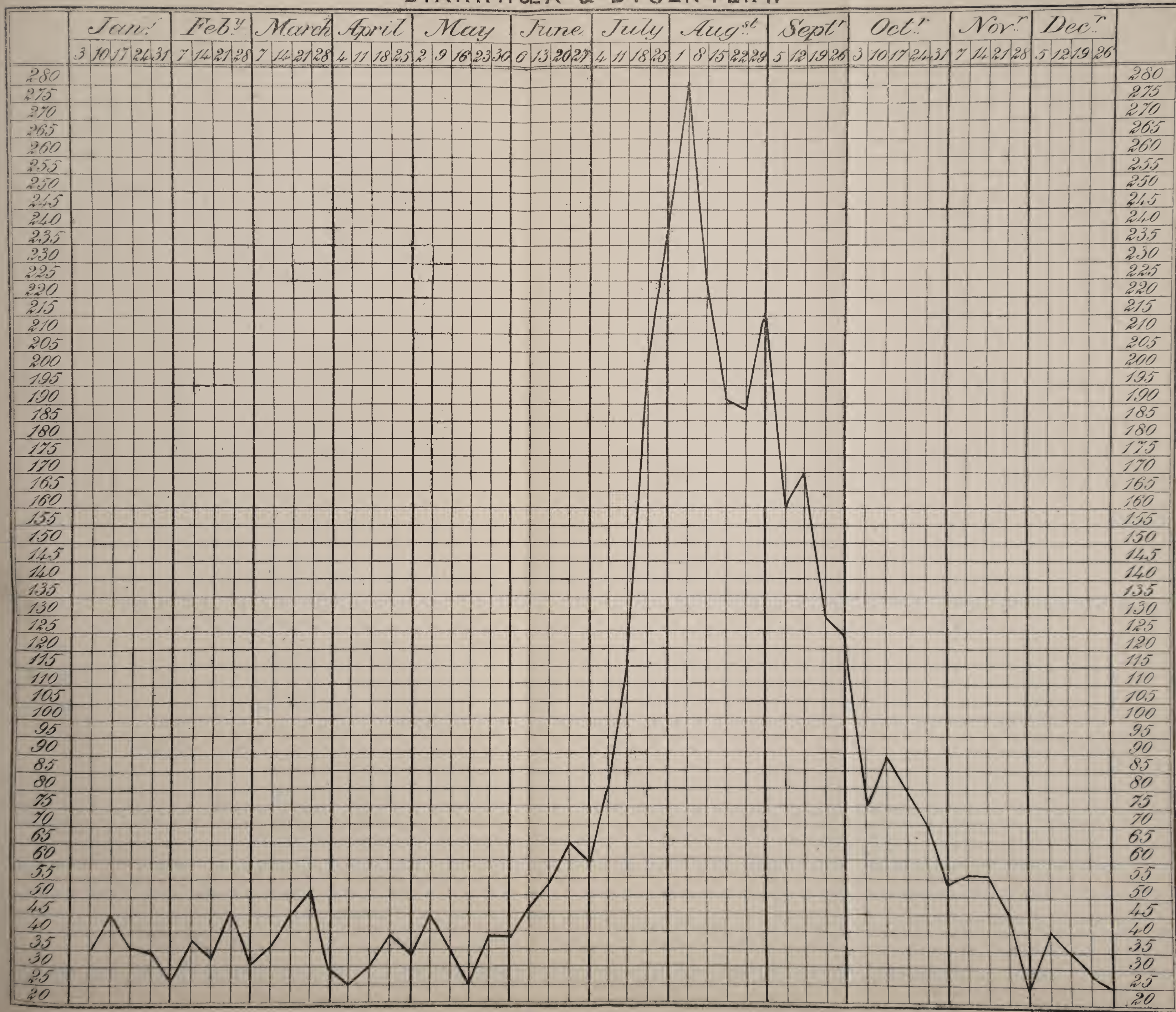


Disease in Manchester for the Year 1874.
WHOOPIING COUGH.



Disease in Manchester for the Year 1874.

DIARRHŒA & DYSENTERY.



- 4 Any large obstruction carelessly thrown down (a whole newspaper, for instance) would be almost certain to cause a stoppage with the worst results.

The house we visited is the property of the Corporation, and the alterations have been effected at their expense, and under the directions of Mr. Fowler himself, so that the system is seen under the most favourable conditions. The family also are evidently people of more than usually careful and cleanly habits, and therefore the defects we have alluded to are not so apparent here as they certainly would be amongst ordinary cottagers.

(Signed)

“JAMES HARDIE, M.D.

“St. VINCENT BEECHY, M.A.”

The Treasurer in Account with the Manchester and Salford Sanitary Association.

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JANUARY 1st TO DECEMBER 31st, 1874.

五

1874.		£	s.	d.	£	s.	d.
Jan.	1—To Balance in Bank	25	9	6			
"	" " in hand	2	0	2			
		—————			27	9	8
Dec.	31— " Subscriptions				182	19	6
"	" " Donations.....				28	7	0
"	" " Amount received from the Executors of the late Mr. Cartledge	10	10	0			
"	" " Tracts, &c., sold	1	10	0			
"	" " Bank Interest.....	0	18	0			
					<hr/>		
					£251	14	2

Examined and found correct,

JOHN CHADWICK, AUDITOR.

ASSETS AND LIABILITIES.

1875.	£	s.	d.
Jan. 1—To Balance in Bank, &c., as above	45	19	4
„ Tracts sold	1	4	6
„ Balance (deficiency)	13	12	11
	£60	16	9

1874.		£	s.	d.
Dec. 31—	By Printing, including arrears to Dec. 1873..	73	0	0
"	" Advertising and Stationery	5	7	7
"	" Secretary's Salary	50	0	0
"	" Collector's Commission	10	11	5
"	" Rent and Taxes	30	6	9
"	" Coal, Gas, and Office Cleaning	5	0	1
"	" Postages, including Cards for Weekly Returns	16	13	8
"	" Sundries, including expenses of Lectures..	14	15	4
"	" Balance in Bank	£44	19	3
"	" " in hand	1	0	1
		45	19	4

Examined and found correct,

JOHN CHADWICK, AUDITOR. £251 14 2

Examined and found correct,

JOHN CHADWICK, AUDITOR.

ASSETS AND LIABILITIES.

1875.	£	s.	d.
Jan. 1—By Printing	45	17	0
" Rent	6	5	0
" Expenses of Lectures	5	5	0
" Advertising	3	3	0
" Sundries	0	6	9
	<hr/>		
	£60	16	9

Donations in former Years.

	£	s.	d.
Armistead William Esq., M.B. (1873)	10	0	0
Atherton Miss	50	0	0
A Friend, per Dr. Morgan	50	0	0
A Friend, per T. Turner, Esq.....	10	0	0
Barbour Robert, Esq.	10	0	0
Bazley T. Sebastian, Esq., Little Grove, East Barnet, Herts.	5	5	0
Binyon Miss, (Clifton).....	5	0	0
Brooks Samuel, Esq.....	50	0	0
Chadwick R., Esq.....	20	0	0
Callender W. R. Senior, Esq.....	5	0	0
Ditto ditto second donation	5	0	0
Coultate E., Esq.	5	0	0
Ellesmere, The Earl of.....	5	0	0
Gardner Robert, Esq.....	5	5	0
Gillibrand P., Esq.	5	0	0
Heywood E. S., Esq.....	20	0	0
Heywood Oliver, Esq.....	15	0	0
Houldsworth Henry, Esq.....	10	0	0
Heywood James, Esq.	5	5	0
Heywood, Sir B., Bart.....	5	5	0
Heywood Arthur H., Esq.	5	0	0
Jones R. Jennings, Esq	5	0	0
Jones W. C., Esq.	5	0	0
Manchester, the late Lord Bishop of.....	10	0	0
Mackintosh Messrs. C., and Co.....	5	5	0
Potters and Norris, Messrs.....	5	5	0
Plant James, Esq.....	5	0	0
Spafford George, Esq.	5	5	0
Schunk, Souchay, and Co., Messrs.....	5	0	0
Taylor J. E., Esq	5	5	0
Todd and Coston, Messrs.	5	0	0
Turner J. Aspinall, Esq., M.P.....	5	0	0
Watkin W. B., Esq	10	0	0
Wood W. Rayner, Esq.....	5	0	0

DONATION IN 1874.

	£	s.	d.
Cheetham John, Esq., Stalybridge.....	5	0	0
Geldart Mrs. C., Cambridge.	5	0	0
Laurie Rev. J. W., Swinton.....	1	0	0
Peatson J. C., M.D., Manchester	2	2	0
Philips H. Esq., Manchester.....	5	0	0
Tootal, Broadhurst, Lee, and Co., Messrs., Manchester.....	5	0	0
Wood G. W. Rayner Esq., Singleton.....	5	5	0

SUBSCRIPTIONS.

	£	s.	d.
Atherton James, Esq., Bridgewater-place.....	2	2	0
Atkinson and Gould, Messrs., 6, Mosley-street	1	1	0
Atwell G. H., Esq., 18, Church-steet, Altrincham.....	1	1	0
Aspland A. Esq., J.P., Dukinfield.....	1	1	0
Armitage V. K. Esq., Eccles.....	2	2	0
Barbour, Messrs. R., and Brother, Aytoun-street.....	2	2	0
Behrens, Messrs. S. L., and Co., 22, Oxford-street.....	2	2	0
Bellhouse Messrs. Jas. and W., Mynshull Mills, Old Garratt	2	2	0
Brooks William Cuncliffe. Esq., M.P., the Bank, King-st....	2	2	0
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